Appln. No.: 10/588,814

Amendment Dated November 28, 2007 Reply to Office Action of August 28, 2007

<u>Amendments to the Claims:</u> This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) A method for determining parameters of a fluctuating stream of fluid in a pipe using at least three electrodes provided at thea periphery of the stream in spaced relationship to each other in the a direction of flow, comprising:

providing sequencing the supply of an AC voltage signal to a first transmitting electrode configuration located upstream of a receiving electrode and to a second transmitting electrode configuration situated downstream thereof; and

receiving signals received at a the receiving electrode configuration that is located between the <u>first and second</u> transmitting electrodes in <u>succession from the first and second</u> transmitting electrodes in accordance with the <u>sequencing</u> of the supply of the AC signal;

analyzing the received signals from the first and second transmitting electrodes are registered by means of dielectric currents and are subjected to detect a time-discrete cross correlation between received signals of the first and second transmitting electrodes, and

<u>determining</u> from the results of which the transit times of <u>using</u> the <u>detected time-discrete cross correlation of the received signals</u> fluctuations detected by the electrodes are <u>determined</u>.

2. (Currently Amended) A method as defined in claim 1, wherein:

the <u>sequencing of the supply of the AC</u> voltage signals are <u>includes</u> feeding the AC voltage <u>signal</u> to the <u>first and second</u> transmitting electrodes <u>configurations</u> in a temporally controlled manner; and

the <u>analyzing of the received signals includes carrying out the time-discrete</u> cross correlation is carried out implementing the<u>using a</u> profile of the temporal control of the <u>first and second</u> transmitted signals.

3. (Currently Amended) A method as defined in claim 1, wherein the sequencing of thean supply of the AC voltage signal is alternately switchedswitching the supply of the AC signal

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<u>between</u> to the <u>first and second</u> transmitting electrodes.

4. (Currently Amended) A method as defined in claim 1, wherein the at least one-first transmitting electrode configuration and/or the at least one-second transmitting electrode configuration has a plurality of single transmitting electrodes distributed around the periphery of the stream.

- 5. (Currently Amended) A method as defined in claim 1, <u>further comprising using a further</u> wherein two-first transmitting electrode and <u>a further two-second</u> transmitting electrode configurations are used.
- 6. (Currently Amended) A method as defined in claim 1, further comprising determining a velocity-distribution profile from the transit times of the fluctuations between the <u>first and second</u> electrodes by means of back projection.
- 7. (Currently Amended) A method as defined in claim 1, wherein the <u>first and second</u> electrodes <u>configurations</u> are provided on a flexible insulating support material and <u>that this the support</u> material is disposed on the inner or outer surface of a delivery pipe for the fluid.
- 8. (Currently Amended) A method as defined in claim 1, wherein a common external shield is provided for the <u>first and second</u> electrodes configurations.
- 9. (Currently Amended) A method as defined in claim 1, <u>further comprising asymmetrically carrying out wherein</u> the supply of the AC voltage <u>signalsignals</u> and the measurement of the received signals are carried out asymmetrically on a common ground.
- 10. (Currently Amended) A method as defined in claim 14, wherein at least one of the plurality of single transmitting electrodes is shifted in position in an upstream/downstream direction relatively to the receiving electrode configuration so that the a relevant distance can be adapted according to the amplitude of the resulting cross correlation value to optimize the amplitude of the resulting cross correlation valuesame to the conditions of flow.
- 11. (Currently Amended) A device for determining parameters of a fluctuating stream of fluid in a <u>delivery</u> pipe using at least three electrodes provided at the <u>a</u> periphery of the stream in spaced relationship to each other in the <u>a</u> direction of flow, comprising:
 - a first transmitting electrode configuration located upstream and a second transmitting Page 3 of 9

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electrode configuration located downstream, and a receiving electrode configuration located between the transmitting electrodes of the first and second electrode configurations, the first and second electrode configurations being provided at the periphery of a the stream of a the fluid passing through athe delivery pipe; and

a receiving and evaluation device <u>having a receiving electrode circumferentially</u> <u>surrounding the periphery of the stream</u> for detecting the received signals produced by dielectric currents, for carrying out a time-discrete cross correlation and for determining the transit times of the fluctuations detected by the <u>receiving electrodeelectrodes</u> from the cross correlation values.

- 12. (Currently Amended) A device as defined in claim 11, further comprising a driver circuit for temporally controlled <u>feedingsupplying</u> of <u>the an AC voltage signalsignals</u> to the transmitting electrode configurations.
- 13. (Currently Amended) A device as defined in claim 11, wherein the at least one first transmitting electrode configuration and/or at least one second transmitting electrode configuration have/has a plurality of single electrodes distributed around the periphery of the stream.
- 14. (Previously Presented) A device as defined in claim 11, wherein two first transmitting electrode configurations and two second transmitting electrode configurations are provided.
- 15. (Currently Amended) A device as defined in claim 11, wherein the electrode configurations are provided on a flexible insulating support material and that this the support material is situated on the inner or outer surface of a the delivery pipe for the fluid.
- 16. (Previously Presented) A device as defined in claim 11, wherein a common external shield is provided for the electrode configurations.
- 17. (Previously Presented) A device as defined in claim 11, wherein at least one of the transmitting electrode configurations is mounted for displacement in the upstream/downstream direction relative to the receiving electrode configuration.
- 18. (New) A device as defined in claim 11, wherein the receiving electrode is one common continuous receiver ring covering a circumference of the delivery pipe.